

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931182

Luminaire Tested: DFN2DS-SQ4F0-120DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931182
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-120DS927-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

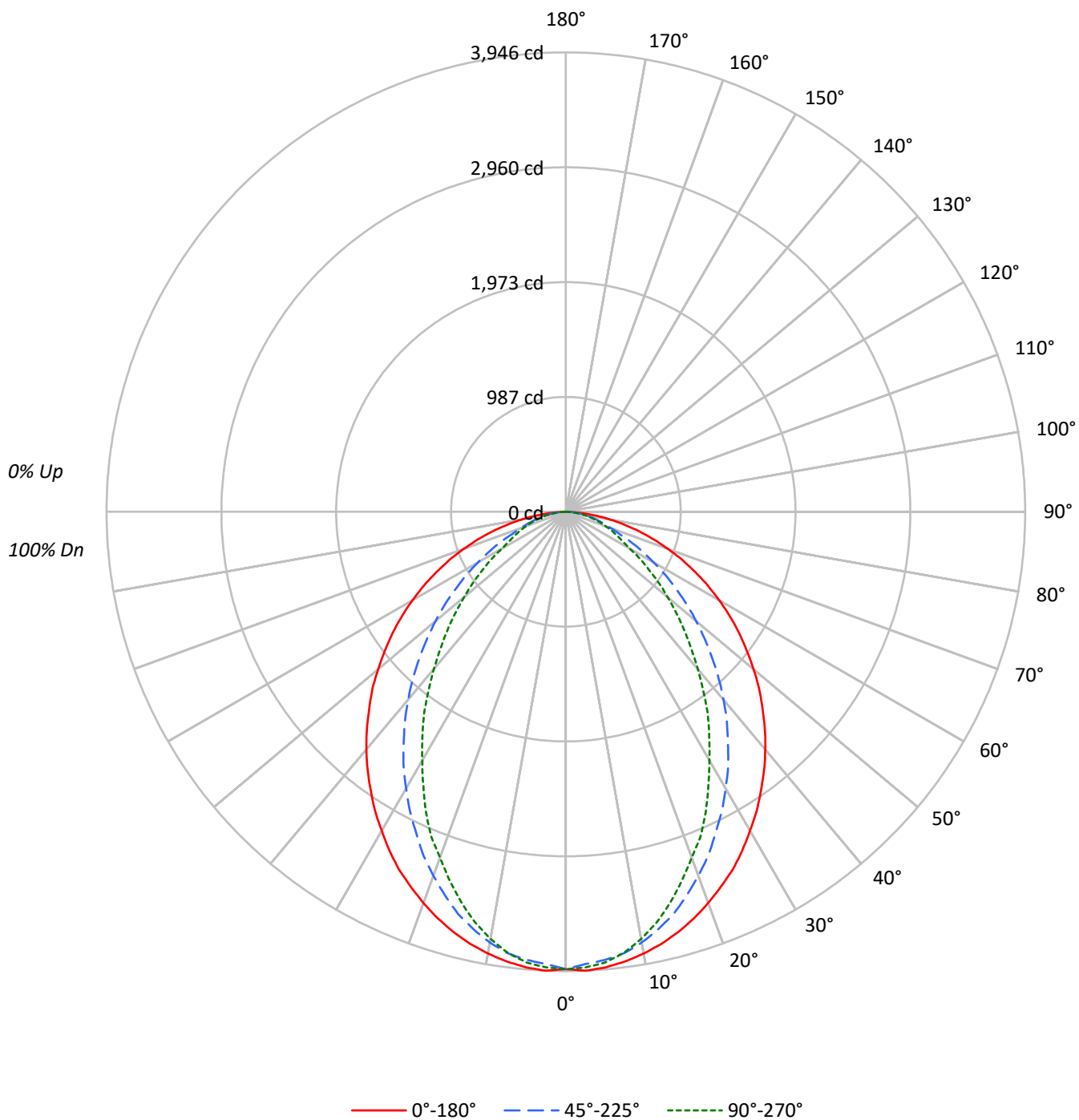
Lumens per Lamp: N/A
Luminaire Lumens: 8078.4 lumens
Efficiency: N/A
Efficacy: 64.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2756	2756	2756
5°	2767	2722	2737
10°	2745	2677	2654
15°	2714	2598	2523
20°	2670	2484	2360
25°	2626	2356	2202
30°	2563	2223	1999
35°	2503	2080	1821
40°	2442	1931	1615
45°	2370	1764	1428
50°	2297	1595	1246
55°	2222	1413	1070
60°	2135	1222	888
65°	2036	1027	808
70°	1918	846	743
75°	1773	771	694
80°	1565	689	632
85°	1230	543	543

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2370 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	368.1	4.6
10°-20°	1010.6	12.5
20°-30°	1418.9	17.6
30°-40°	1546.6	19.1
40°-50°	1421.5	17.6
50°-60°	1116.4	13.8
60°-70°	726.7	9.0
70°-80°	374.1	4.6
80°-90°	95.5	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2797.6	34.6
0°-40°	4344.2	53.8
0°-60°	6882.2	85.2
0°-90°	8078.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8078.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3928	3928	3928	3928	3928	
5°	3928	3910	3864	3896	3885	372
15°	3736	3697	3576	3509	3473	1053
25°	3391	3277	3043	2897	2844	1560
35°	2922	2741	2428	2204	2126	1829
45°	2389	2150	1778	1525	1440	1845
55°	1816	1539	1155	942	875	1623
65°	1226	938	619	498	487	1216
75°	654	405	284	260	256	692
85°	153	78	68	68	68	183
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3928.0	3928.0	3928.0	3928.0	3928.0
2.5°	3945.7	3928.0	3888.8	3924.6	3917.4
5°	3928.0	3910.3	3863.9	3895.9	3885.4
7.5°	3895.9	3874.8	3825.0	3839.0	3821.2
10°	3853.3	3828.4	3757.5	3746.6	3725.5
12.5°	3800.1	3768.1	3671.9	3650.8	3611.6
15°	3736.0	3696.8	3576.1	3508.6	3473.2
17.5°	3661.3	3604.4	3455.0	3377.0	3320.1
20°	3576.1	3504.8	3327.2	3238.6	3160.1
22.5°	3483.7	3401.9	3195.6	3074.9	3021.7
25°	3391.3	3277.4	3042.8	2897.2	2843.7
27.5°	3281.2	3160.1	2900.6	2733.6	2651.7
30°	3163.9	3028.5	2744.1	2563.1	2466.9
32.5°	3050.0	2886.3	2595.1	2381.7	2292.7
35°	2922.2	2740.7	2428.0	2204.1	2125.6
37.5°	2797.7	2602.0	2271.5	2026.0	1937.4
40°	2666.0	2453.0	2107.9	1855.6	1763.2
42.5°	2531.0	2303.6	1944.6	1681.3	1592.7
45°	2388.8	2150.5	1777.5	1524.8	1439.5
47.5°	2253.8	2001.5	1617.6	1364.9	1286.8
50°	2104.5	1852.2	1461.1	1215.6	1141.3
52.5°	1958.5	1691.9	1311.7	1077.1	1009.6
55°	1816.4	1539.2	1155.2	942.1	874.6
57.5°	1670.7	1386.4	1016.8	817.7	760.7
60°	1521.4	1237.0	870.8	689.8	632.9
62.5°	1375.9	1091.5	746.4	575.9	547.6
65°	1226.5	938.4	618.6	497.9	486.9
67.5°	1084.3	796.1	497.9	437.1	426.6
70°	935.0	657.8	412.2	376.8	362.4
72.5°	792.8	529.5	344.7	316.4	309.3
75°	654.0	405.0	284.4	259.5	256.1
77.5°	515.6	287.7	224.1	209.7	202.5
80°	387.4	206.3	170.4	156.5	156.5
82.5°	270.1	138.8	117.3	110.1	110.1
85°	152.8	78.1	67.5	67.5	67.5
87.5°	56.9	28.3	28.3	24.9	24.9
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.76	16.28	15.12	16.59	16.91	10.72	12.24	11.08	12.55	12.87
	3H	16.52	17.89	16.90	18.22	18.58	11.98	13.35	12.36	13.68	14.04
	4H	17.19	18.47	17.59	18.82	19.20	12.48	13.77	12.88	14.11	14.49
	6H	17.68	18.86	18.09	19.23	19.62	12.87	14.05	13.28	14.42	14.81
	8H	17.84	18.97	18.27	19.36	19.76	12.99	14.12	13.42	14.51	14.91
	12H	17.95	19.02	18.38	19.41	19.84	13.07	14.15	13.50	14.53	14.96
4H	2H	14.86	16.14	15.26	16.49	16.87	11.41	12.69	11.81	13.04	13.42
	3H	16.79	17.86	17.21	18.26	18.66	12.86	13.92	13.27	14.32	14.72
	4H	17.54	18.50	17.98	18.92	19.35	13.46	14.41	13.89	14.83	15.27
	6H	18.14	18.97	18.59	19.41	19.87	13.94	14.78	14.40	15.22	15.68
	8H	18.35	19.13	18.81	19.57	20.04	14.11	14.88	14.57	15.33	15.79
	12H	18.50	19.20	18.99	19.68	20.15	14.22	14.92	14.71	15.40	15.87
8H	4H	17.57	18.35	18.03	18.79	19.26	13.81	14.59	14.27	15.03	15.50
	6H	18.21	18.85	18.70	19.34	19.82	14.40	15.04	14.89	15.53	16.01
	8H	18.46	19.03	18.97	19.54	20.03	14.62	15.19	15.13	15.70	16.19
	12H	18.66	19.17	19.17	19.66	20.23	14.80	15.31	15.31	15.80	16.36
12H	4H	17.55	18.25	18.03	18.73	19.20	13.85	14.55	14.34	15.03	15.50
	6H	18.19	18.76	18.70	19.27	19.76	14.46	15.04	14.97	15.55	16.04
	8H	18.47	18.98	18.98	19.47	20.04	14.73	15.24	15.24	15.73	16.30